



## BUREAU OF LAND MANAGEMENT ABANDONED MINE LAND (AML) PROGRAM AT-A-GLANCE

*Abandoned mines are important relics of the past, but can present unforeseen problems to the environment and human health unless properly handled.*

### What is the AML program?

The AML program supports the core BLM mission of public land and water **conservation** through **communication, consultation, and cooperation** with federal, state, and local partners in abandoned mine land restoration. The AML program is part of the Minerals, Realty and Resource Protection directorate and the Division of Engineering and Environmental Services within the Washington Office with AML Program Leads in the State and Field Offices. AML program activities are funded in the range of \$10 - 12 million annually.

### What is the objective of the AML program?

The AML program's overall objective is to support core BLM programs by providing solutions to degraded water quality and other environmental impacts, and to mitigate physical safety hazards of abandoned mine land sites on or affecting lands administered by BLM.

### Why is the AML program important?

The AML program works to eliminate or reduce the dangers to public health, safety, and the environment as a result of impacts related to abandoned hard rock mines on public lands. The AML program supports BLM core programs including land use planning, water quality, fisheries and wildlife biology, recreation, and hazard management and resource restoration.

### AML Success Throughout the Country

- § Partnerships Quickly Backfill 55 Mines: Our Nevada State Office recently put together one of the most ambitious AML efforts ever undertaken by organizing a broad partnership that included the Nevada mining industry, state officials, independent scientists, and other volunteers. In a few short days they backfilled a total of 55 mines. The cost to taxpayers was minimal. The value to the public, now and for the future, is beyond measure.
- § Partners Restore Wildlife through Leveraged Cleanup Funds: In the Upper Animas River near Silverton, Colorado, downstream fish populations are on an increasing trend, and there is evidence of self-sustaining fish populations in lower reaches. Partners have completed approximately 50 cleanup projects for a total of \$28.6 million at a cost one tenth of the typical Superfund mining cleanup. In the Animas, BLM has leveraged its cleanup funds of \$2.7 million by a ratio of 1 to 10.
- § Multi-Agency Cleanup Removes 1,700 Tons of Mercury Tailings: California BLM, EPA, and the USFS are finishing the last phase of a multi-year multi-agency mercury cleanup effort in the Rinconada Mine located in the headwaters of the Salinas River. Reclamation of over 50 acres of stream and historic mercury mill sites and removal of mercury mill tailings will reduce the mobilization of mercury and improve downstream conditions.

### What are the hazards of AML sites?

**Physical hazards:** Unsecured AML sites pose a risk of death or serious injury by falling down open mine shafts.

**Human health hazards:** Exposure to toxic gases and chemicals, cave-ins, explosives, and water hazards endanger human health.

**Environmental hazards:** Water contaminated by mine tailings threatens nearby communities and destroys habitats.



Unstable AML structures create dangerous situations.

#### What has the AML program accomplished in the past two years?

Water quality improved

The AML program improved water quality on 336 acres in FY 2004 and 856 acres in FY 2005.

Physical hazards eliminated

The AML program remediated a total of 472 physical safety sites the past two years.

Sites inventoried/mitigated

In FY 2004, the AML program inventoried/mitigated 866 sites. In 2005, 970 sites were inventoried or mitigated.



Old headframes may cover open mine shafts.



Open mine shafts create falling hazards.



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### How many AML sites are there?

There are approximately 12,000 known sites in the BLM AML database, with an estimated total of 100,000 – 500,000 sites to be fully identified or characterized.

Approximately 20 to 30 percent of AML sites pose safety hazards. Approximately 5 to 10 percent pose environmental hazards.

### With so many AML sites, how are AML cleanup project sites selected?

Overall, sites are divided into **water quality** and **physical safety** sites, although there can be overlap. The AML Program selects cleanup projects through a program-wide collaborative process that occurs once a year.

The selection process includes:

- § Applying **watershed approach** reflecting State government priorities.
- § Using **risk-based approach** for physical safety hazard sites.
- § Coordinating with State and Federal partners.
- § Planning projects through **multi-year AML work plans**.
- § Focusing on priority watersheds and high-use areas.
- § Conducting **peer review** by program leads.

### Which types of sites become cleanup priorities?

The decision is made on a site-by-site basis, but typically the following factors are taken into consideration when determining priorities.

For **water quality** sites:

- § **Safety:** Pose threats to public health, safety, and the environment;
- § **Watershed:** Are located within State-designated watersheds;
- § **Partnerships:** Have cost-effective partnerships available;
- § **Cost:** Have the potential for cost avoidance/recovery;
- § **Water quality:** Contain impaired water quality standards;
- § **Work status:** Are continuing projects;
- § **Location:** Impact BLM administered lands.

For **physical safety** sites:

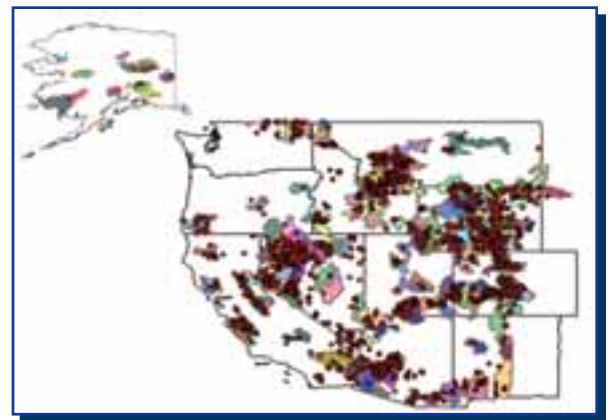
- § **Safety:** Death or injury has occurred;
- § **Public use:** Have high public visitation;
- § **Accessibility:** Are easily accessible
- § **Population:** Are located nearby populated areas;
- § **Cost:** Have cost-effective partnerships available.



**Acid mine drainage contaminates water, negatively affects local environments and threatens communities.**



**Remnants of Abandoned Mine.**



**BLM AML Inventory and Key Watersheds.**

### More Questions?

Please Contact:

**George Stone**

AML Program Lead

Division of Engineering & Environmental Services

202-557-3573

[george\\_m\\_stone@blm.gov](mailto:george_m_stone@blm.gov)

[www.blm.gov/aml](http://www.blm.gov/aml)